What is claimed is :

1 A filtering control method for improving the image quality of a bi-linear interpolated image in methods for getting a high resolution image from a low resolution image, comprising :

restoring a requested high resolution image f by finding an added filter coefficient Q of a PSF(P) and a bi-linear interpolation filter B from an equation f=Pg=PBz=Qz, herein the f is the high resolution image as requested, P is the PSF (Point Spread Function), g is the high resolution image found by the bi-linear interpolation method, and z is the low resolution image.

2. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 1, wherein the high resolution image f can be restored by performing an added function M(f) definition process for finding the PSF(H) from an equation g = Bz = Hf+n, herein the B, H are bi-linear interpolation filters, and the n is a noise component generated by the assumed H.

3. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 1, wherein the high resolution image f is restored by finding a PSF(P) of a f=Pg function after finding the PSF(H) from the added function M(f).

4. The filtering control method for improving the image quality of the

bi-linear interpolated image according to claim 2, wherein the added function M(f) is defined as $M(f)= \| g-Hf \|^2+\alpha \| Cf \|^2$, herein the α is a regularization parameter, C is a two-dimensional high frequency filter for finding mitigation of the original image.

5. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 3, wherein the PSF(H) is found by using an equation $H(k,l)=\frac{G(k,l)}{F(k,l)}$, herein the $G(k,l)$ is the component in the k,l frequency region of the bi-linear interpolated image, and the $F(k,l)$ is the component in the k,l frequency region of the high resolution image.

6. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 1, wherein the PSF(P) can be found by getting an IFT (Inverse Fourier Transform) by an equation

$$P(k, l)=\frac{H^*(k,l)}{H^*(k,l)H(k,l)+C^*(k,l)C(k,l)}$$

7. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 4, wherein the regularization parameter α is fixed as '1' in order to reduce a computational complexity.

8. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 1 ~~or 6~~, the number of a kernel of the PSF(P) is set in accordance with an up-sampling value of the image.

9. The filtering control method for improving image quality of the bi-linear interpolated image according to claim 4, wherein a two-dimensional gaussian filter is used as the two-dimensional high frequency filter C in order to determine the mitigation of the original image.

10. A filtering control method for improving image quality of a bi-linear interpolated image in methods for getting a high resolution image from a low resolution image, comprising :

defining an added function M(f) for finding a PSF(H) from an equation g=Bz=Hf+n (B, H are bi-linear filters, N is a noise component generated by an assumed H when the H is a PSF (Point Spread Function), F is a requested high resolution image, z is a low resolution image, and g is a high resolution image gotten by the bi-linear interpolation method ;

finding a PSF(P) of a f=Pg function after finding the PSF(H) from the defined added function M(f) ; and

restoring the requested high resolution image f by finding an added filter coefficient Q of the PSF(P) and interpolation filter B from the equation f=Pg=PBz=Qz.

11. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 10, wherein the added function M(f) is defined as $M(f)= \| g-Hf \|^2+\alpha \| Cf \|^2$, herein the α is a regularization parameter, and C is a two-dimensional high frequency filter for finding the mitigation of the original image.

12. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 10, the PSF(H) is found by an equation $H(k,l)=\frac{G(k,l)}{F(k,l)}$, herein the $G(k,l)$ is the component in the k,l frequency region of the bi-linear interpolated image, and the $F(k,l)$ is the component in the k,l frequency region of the high resolution image.

13. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 10, wherein the PSF(P) is found by using an IFT (Inverse Fourier Transform) from an equation

$$P(k,l)=\frac{H^*(k,l)}{H^*(k,l)H(k,l)+C^*(k,l)C(k,l)}$$

14. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 11, wherein the regularization parameter α is fixed as '1' in order to reduce a computational complexity.

15. The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 10 ~~or claim 13,~~ the number of a kernel of the PSF(P) is differently set in accordance with an up-sampling value of the image.

16. The filtering control method for improving image quality of the bi-linear interpolated image according to claim 11, wherein a two-dimensional

gaussian filter is used as the two-dimensional high frequency filter C in order to determine the mitigation of the original image.